



A.D. 1859, *8th MARCH.* N° 602.

S P E C I F I C A T I O N

OF

WILLIAM HALLILAY.

PREVENTING SMOKE AND ECONOMIZING
FUEL.

LONDON:

PRINTED BY GEORGE E. EYRE AND WILLIAM SPOTTISWOODE,
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25, SOUTHAMPTON BUILDINGS, HOLBORN.



A.D. 1859, 8th MARCH. N° 602.

Preventing Smoke and Economizing Fuel.

(This Invention received Provisional Protection only.)

PROVISIONAL SPECIFICATION left by William Hallilay at the Office of the Commissioners of Patents, with his Petition, on the 8th March 1859.

I, WILLIAM HALLILAY, of Wakefield, in the County of York, Gentleman,
5 do hereby declare the nature of the said Invention for “IMPROVEMENTS IN APPARATUS FOR PREVENTING SMOKE AND ECONOMIZING FUEL,” to be as follows:—

This Invention relates to the employment of a simple and economical apparatus applicable to existing furnaces or fire-places, whereby a more effectual combustion of the smoke is effected, and a considerable saving of
10 fuel obtained.

The essential feature of this Invention consists of an apparatus composed of any convenient number of fire-clay tubes of from two to three feet in length, fitted into and between two end or supporting pieces, also composed of fire-clay, and perforated to correspond to the bore of the tubes, the ends of which are
15 let into circular recesses made on one side of the end or supporting pieces, and of a diameter corresponding to the external diameter of the tubes. One or more of these apparatuses are placed inside the boiler or other flues a short distance behind the bridge, so that the flame, gases, and products of combustion will pass through the fire-clay tubes, which will shortly become red
20 hot, and will then effectually consume the unburnt gases, whilst at the same time will impart a considerable amount of heat to the boiler. It is also proposed, for the purposes herein-before referred to, to construct the upper portion of the bridge of fire-clay, and to form across the top of the bridge in

Hallilay's Impts. in Apparatus for Preventing Smoke and Economizing Fuel.

the direction of the flue a series of openings or slits arranged very closely together, so that the smoke and gases in passing over and through the openings will be divided and subjected to a considerable degree of heat. Openings may in some cases be made in the fire doors in conjunction with the use of the apparatus above described, so as to admit air freely 5 above the fire.

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Printers to the Queen's most Excellent Majesty. 1859.